

다음 빈칸에 들어갈 말로 가장 적절한 것을 고르시오.

Normal progress is Kuhn's term to describe scientific knowledge production that is guided by a paradigm. Kuhn describes the essence of normal progress as "mopping-up activities" ; expected solutions are developed to those problems that are already accepted as such. In this sense, normal progress allows for a directed, selective and in-depth exploration of a scientific field. First and foremost paradigms are exemplary solutions that sketch out a pattern for problem solving and the true innovation of the paradigm concept ; these exemplars, in turn, embody tacit norms, theories and rules that mark a constellation of group commitments. This interplay of concrete problem solutions, on the one hand, and group commitments, on the other, is at the center of a scientific paradigm and thus also of normal science. Kuhn distinguishes between two forms of change ; normal progress and paradigm shifts. In times of normal progress, \_\_\_\_\_. Only after times of crisis, when solutions discovered within a community do not fit with the expectations of a paradigm, a new paradigm may eventually overturn the existing one.

- ① paradigms are shared by knowledge creating communities
- ② paradigms can only be resolved at once, with one of the competing paradigms prevailing
- ③ a paradigm is a form of social closure, separating two qualitatively different modes of collective inquiry
- ④ a paradigm itself remains unaltered as a framework, while the knowledge produces accumulates according to that framework
- ⑤ paradigms seem to emerge at relatively distinct points in time